

# From Seed to Apple

Heinemann First Library

How Living Things Grow

# FROM SEED TO APPLE

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# Have You Ever Eaten an Apple?

An apple is a kind of fruit. An apple grows on an apple tree. The tree grows from a tiny **seed**. People grow apples for eating and cooking.

*Wild apples are small and bitter. Apples grown by people are sweet and juicy.*







You are going to learn about Red Delicious apples. You will learn how an apple seed grows into a tree and then makes new seeds and apples. This is the apple's life cycle.

What is an apple seed?

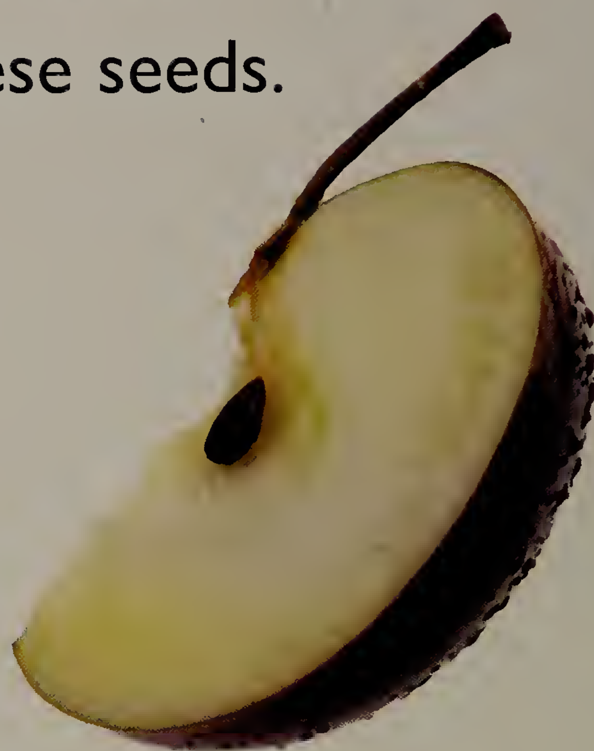
# Apple Seeds



An apple **seed** is tiny and brown. It is about the size of a grain of rice. Apple trees grow from these seeds.







*The middle of the apple is called the* **core.** *The seeds are in the core.*



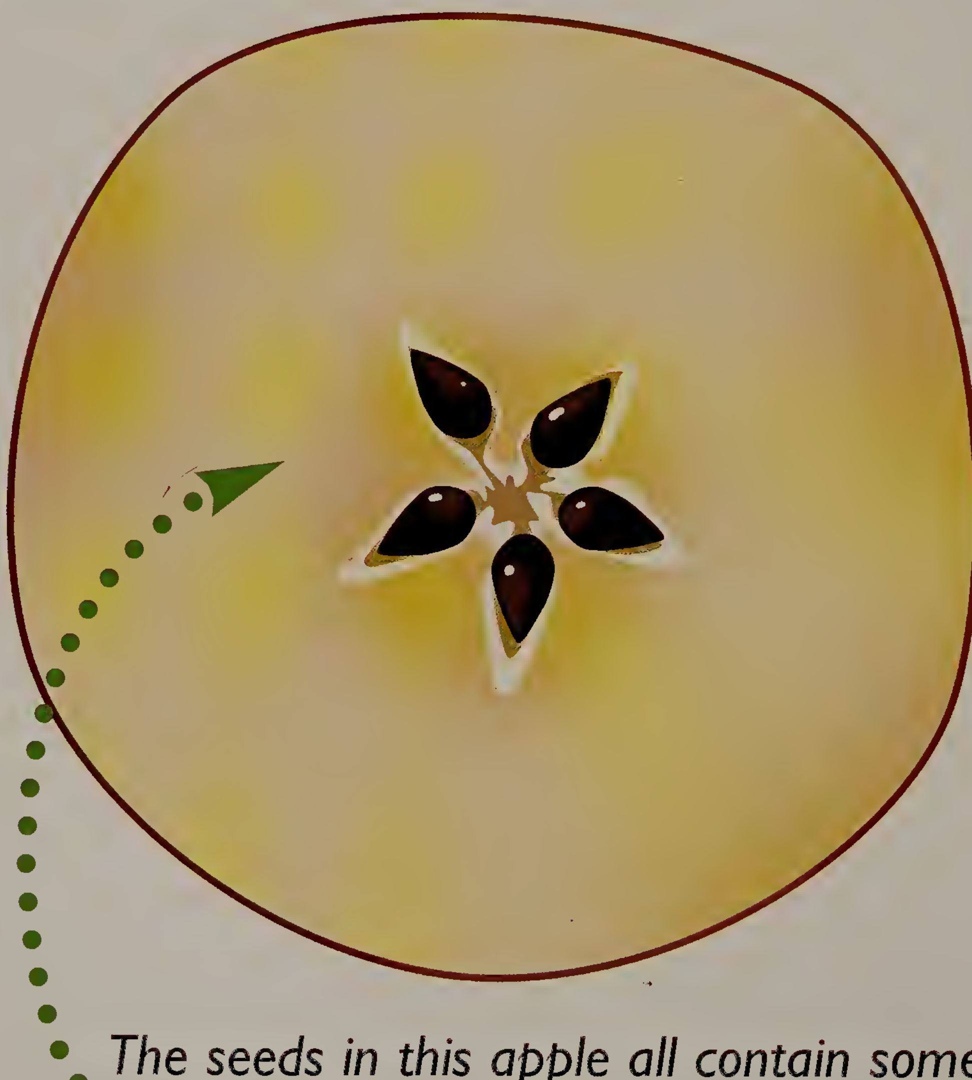
The seeds start to grow in the ground. People plant some apple seeds. Some seeds fall out of rotten apples onto the ground.



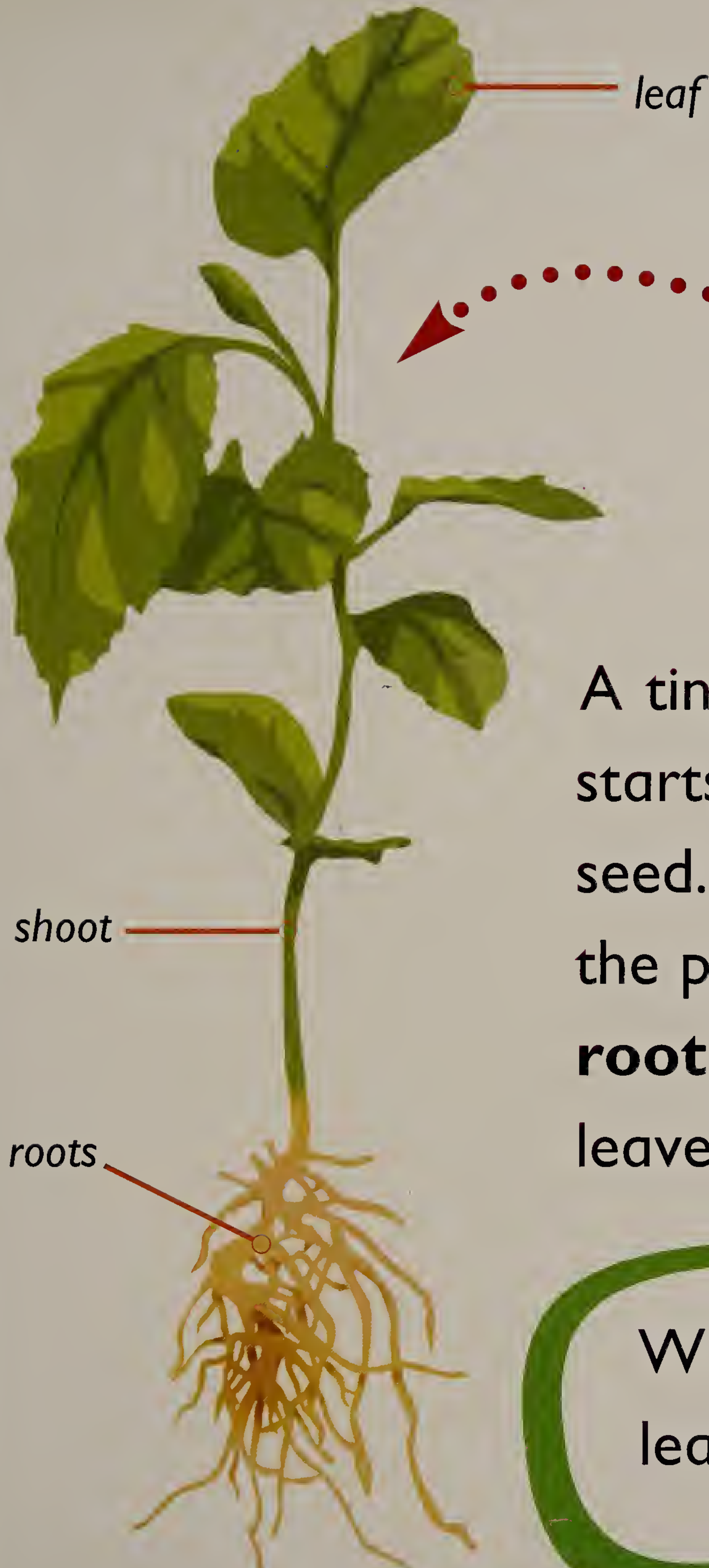
When does the seed start to grow?

# A Sprouting Seed

The **seed** starts to grow in the spring, when the weather is warmer. The way a seed starts to grow is called **germination**.



*The seeds in this apple all contain some food. This is to help new trees grow when they are planted.*




*In the seed are parts that grow into a new apple plant.*

A tiny apple tree plant starts to grow from the seed. The first part of the plant to grow is the **root**. Next, a **shoot** and leaves grow.

What are the leaves for?

# Leaves and Food

The leaves make food for the plant. The plant also needs water and a gas (**carbon dioxide**) from the air.



*The leaves take in sunlight to help make the food.*





The way a plant makes food is called **photosynthesis**. The food helps the plant grow bigger and taller. The young apple tree is called a **sapling**.

What happens to the tree in the fall?

# Falling Leaves

It starts to get cold in the fall. The apple tree gets ready for the cold winter. Its leaves turn red and brown. They fall to the ground.



*The leaves change color and fall off.*



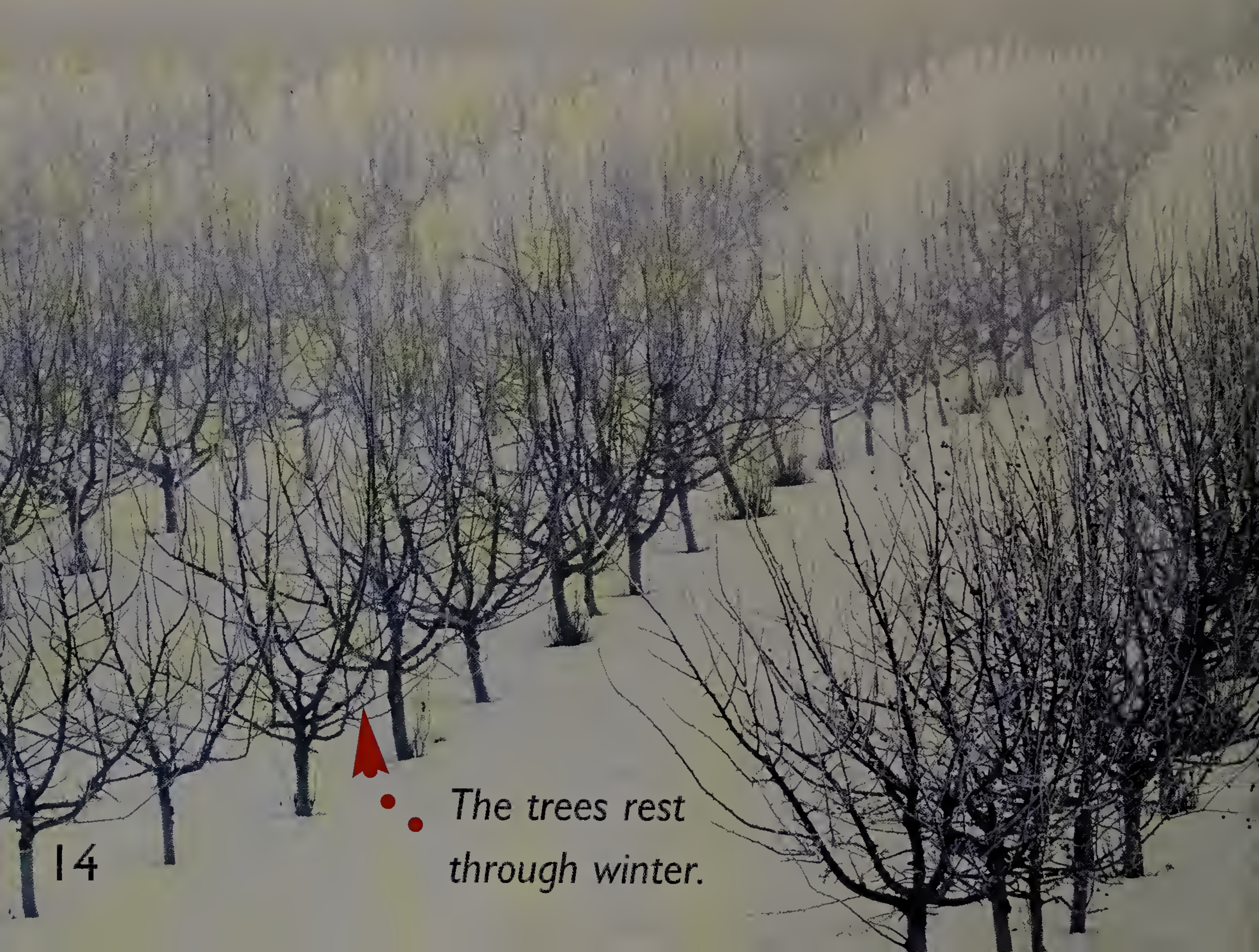
*The buds stay this size until the spring.*

Small bumps grow at the end of the branches. These bumps are called leaf **buds**. This is where new leaves will grow in the spring.

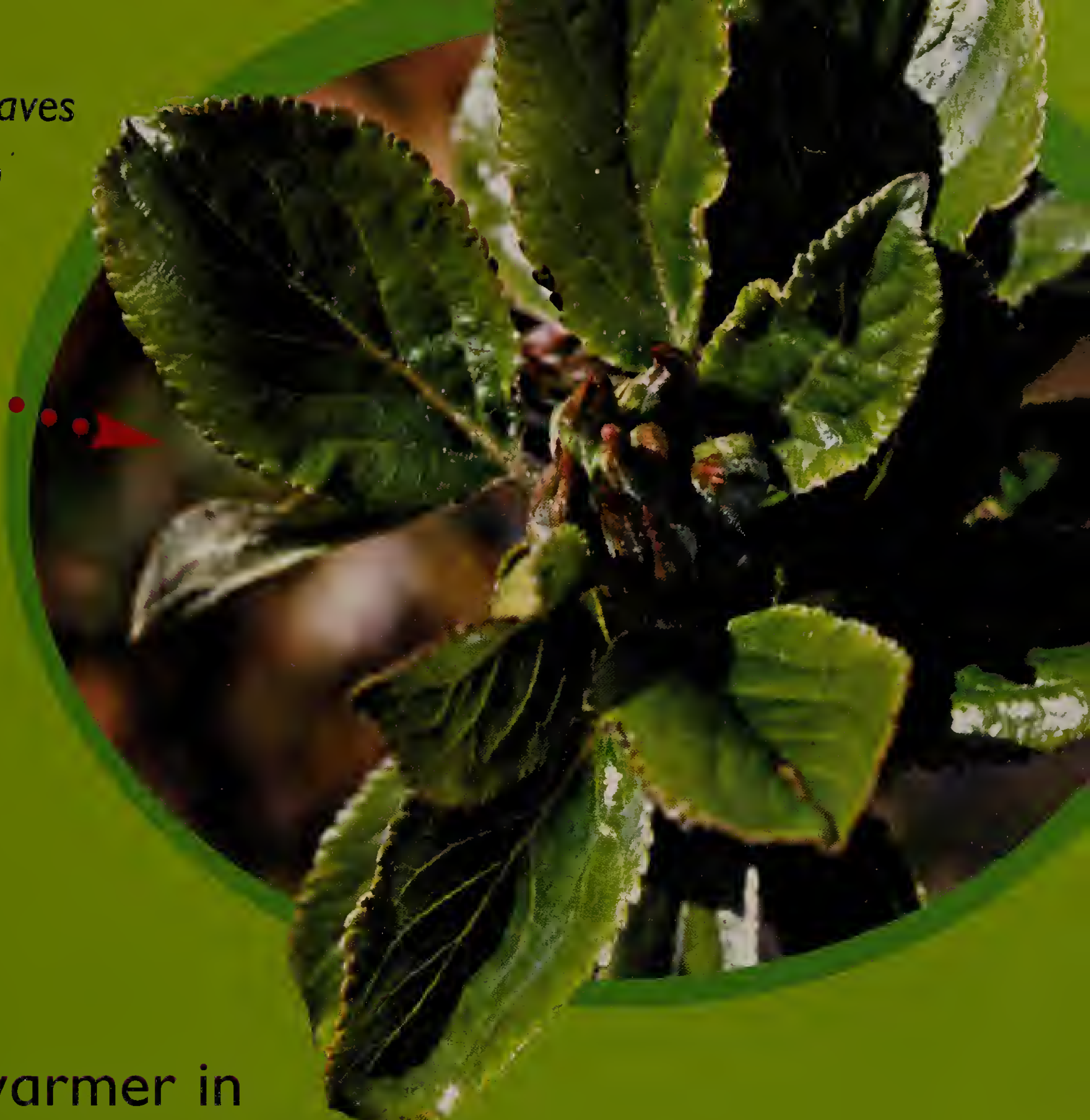
Does the tree have leaves in winter?

# Apple Tree in Winter

It is the middle of winter. The apple tree has no leaves. This is because there is not enough sunlight for leaves to make food.



*The trees rest through winter.*



*Young leaves need sun and rain.*

It gets warmer in the spring. The leaf **buds** start to open to show little leaves. More leaves grow.

What do the pink buds open out into?

# Apple Blossoms

Little pink **buds** start to grow among the leaves. The buds open out into lots of flowers. The flowers are small and pinkish-white.





*Each flower is full of nectar.*

The flowers are called **blossoms**. The blossoms make a sweet juice called **nectar**. Insects come to the tree to drink the nectar.

# Making Seeds

An apple **blossom** makes a yellow dust. This dust is called **pollen**. The pollen sticks to an insect as it drinks the **nectar**. The insect goes to the next flower.



*Bees and other insect like the blossoms' sweet smell.*



*The bee helps the flowers make seeds when it spreads the sticky pollen.*

The insect takes the sticky pollen with it. The pollen joins with parts of the new flower. Lots of new apple **seeds** start to grow. This is called **pollination**.

# Seeds and Fruit

The **seeds** are growing, which means the flower has done its job. Its petals start to droop and fall off. The flower dies.



*The petals drop off and leave the middle, where a tiny new apple is growing.*

*Apples are tiny when they are just starting to grow.*



Next, tiny green fruits grow around the new seeds. The fruits are the apples you eat. Over the next few weeks, the apples grow bigger.

Why do some apples have holes in them?

# Insect Pests

Many insects eat parts of the apple tree. Caterpillars eat the fruit and leaves. They munch little holes in the apples.



*This caterpillar is munching through an apple leaf.*

Some farmers spray their apple trees with **chemicals**. This kills the insects, so that they cannot eat the fruit. But in the wild, apples do not get sprayed.



*Wild apples sometimes have holes in them.*

# Ripe, Red Apples

It is a warm, sunny summer. The apples are growing bigger and sweeter. They turn bright red when they are **ripe**.

*Do you think these apples are ready to eat?*





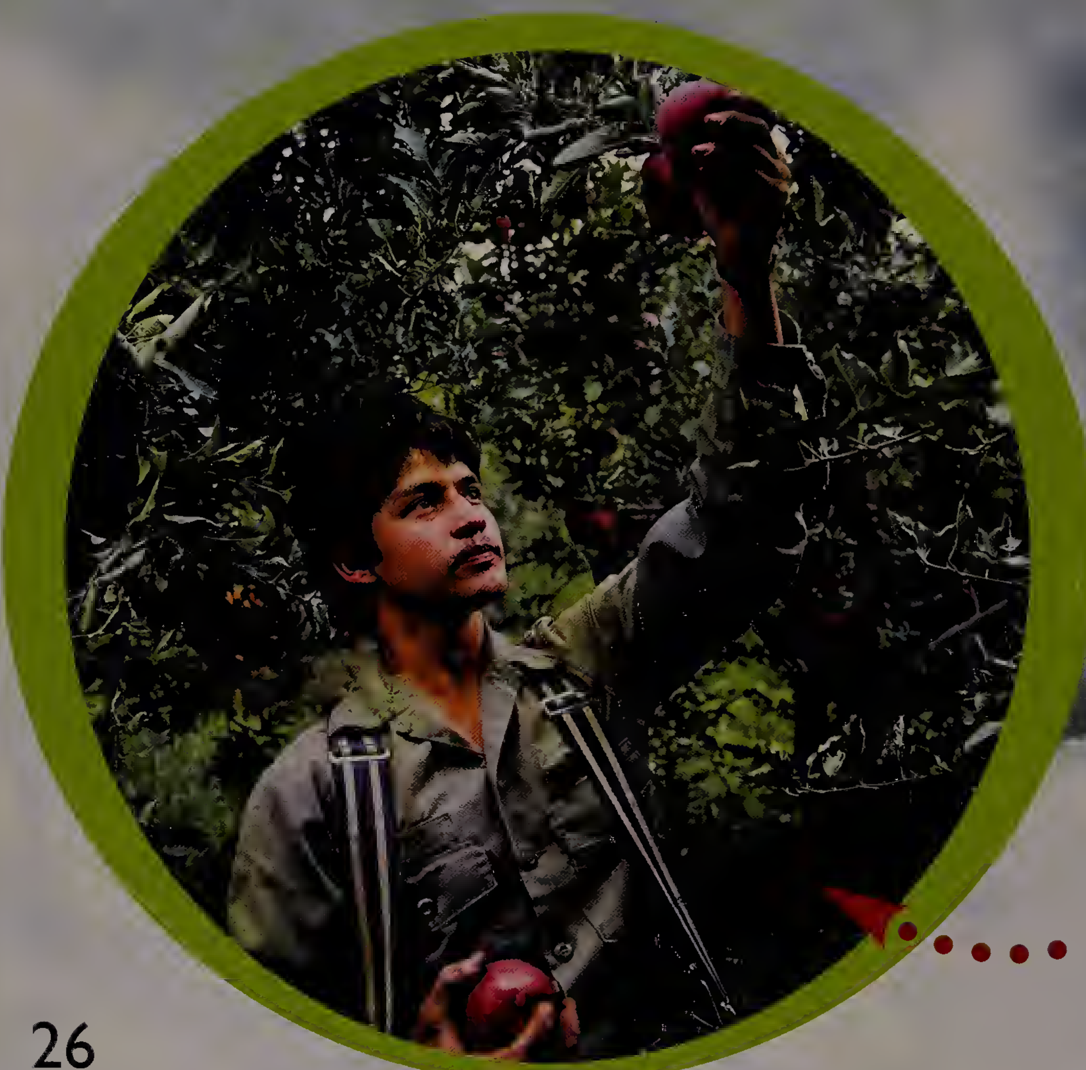
*There are hundreds of apples in this* ***orchard****.*

Soon the tree is covered in
lots of red apples.
The apples are heavy.
The branches bend
under their weight.

When are the apples ready to pick?

# Apple Picking

It is early fall. The apples growing in the **orchard** are ready to pick. People pick the apples by hand. They pack the apples into boxes.



*We pick the best apples. Damaged apples are left on the ground.*

*These rotting apples have* ***seeds*** *that may start to grow in the spring. The apple's life cycle starts again.*

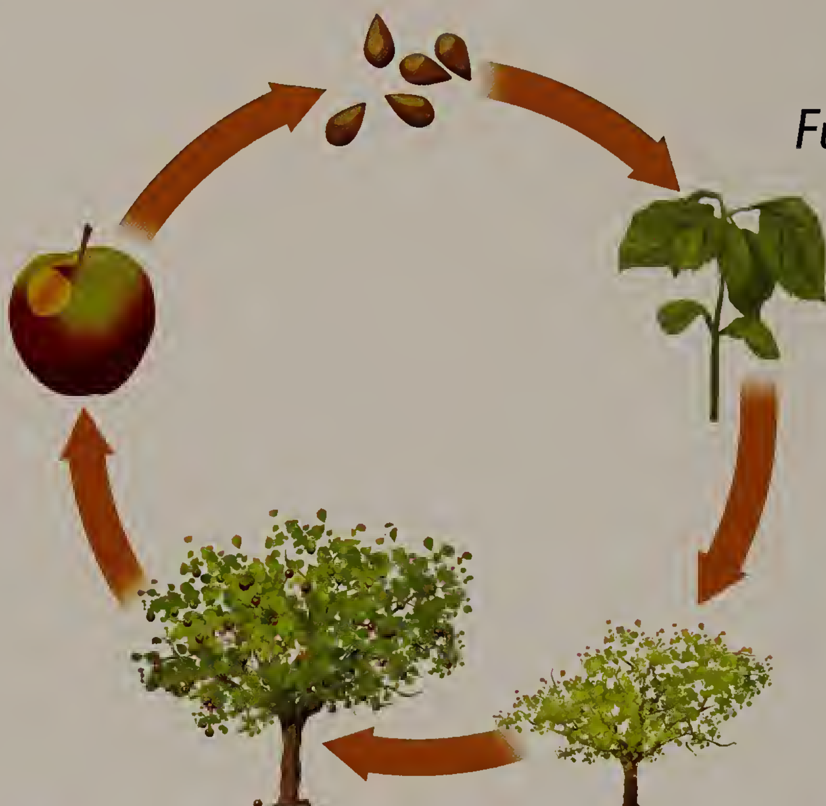


Some of the apples fall to the ground. Birds and insects eat the juicy fruit. The apples left will rot away.

# Life Cycle of an Apple

1. *Apple* ***seeds*** *grow in ground (spring, year 1)*

2. *Apple tree* ***sapling*** *(years 1–5)*



3. *Fully grown tree (year 8)*

4. *Leaves open (early spring, from year 8)*

5. ***Blossoms*** *appear (mid-spring)*

6. *Small, green apples appear (early summer)*

7. *Apples turn red and* ***ripe*** *(mid- to late summer)*

8. *Apples fall to ground or are picked (early fall)*

9. *Seeds lie in ground (winter)*

# Apple Tree Map




# Apple Map



# Glossary

**blossom** flower on a fruit tree

**buds** parts of a plant that are new leaves or flowers

**carbon dioxide** gas from the air that plants use to make food

**chemicals** strong liquids that can kill insects

**core** middle parts of an apple

**germination** way a seed starts to grow into a plant

**nectar** sweet juice made by blossoms

**orchard** field or garden where fruit trees are grown

**photosynthesis** way a plant makes its food from sunlight, carbon dioxide gas, and water

**pollen** yellow dust made in a flower

**pollination** how pollen joins with parts of a flower to make new seeds

**ripe** fully grown and ready to eat

**root** part of a plant that grows down into the ground

**sapling** young tree

**seed** part of a plant that grows into a new plant

**shoot** new plant's first stem and leaves

# More Books to Read


Ditchfield, Christin. *Johnny Appleseed*. New York: Children's Press, 2003.

Driscoll, Laura. *Apples and How They Grow*. New York: Grosset & Dunlap, 2003.

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Hibbert, Clare. *Life of an Apple*. Chicago: Raintree, 2005.

Royston, Angela. *Life Cycle of an Apple*. Chicago: Heinemann Library, 1998.

Snyder, Inez. *Apples*. New York: Children's Press, 2004.

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How Living Things Grow

# FROM SEED TO APPLE

- What is an apple core?
- How fast do apple trees grow?
- What happens to apple trees in fall?

Find out the answers to these questions and more in *How Living Things Grow*. This series takes a close look at the life cycles of animals and plants that we find in the world around us.

Heinemann First Library offers:
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- Age-appropriate text that introduces new concepts gradually.

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From Caterpillar to Butterfly
From Egg to Chicken
From Egg to Spider
From Puppy to Dog
From Seed to Apple
From Seed to Sunflower
From Tadpole to Frog

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Anita Ganeri is an experienced children's author. She has written many books about animals and the natural world.

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